

PONY
ICT
By
Eng. Osama Youssef
First Term
6th
Primary

Introduction

We are delighted to introduce our comprehensive educational series "Pony" in ICT. This book is designed to provide an interesting and attractive style that will capture your attention and keep you engaged throughout your learning journey.

We understand that learning can be challenging, which is why we have made every effort to provide clear and concise explanations of the topics covered in this book. In addition, the book includes a large number of comprehensive exercises designed to help reinforce your understanding of the concepts presented.

We have also taken great care to provide explanatory information for some of the more ambiguous points in the subject matter. We understand that some concepts may be difficult to grasp, and we have made every effort to provide clear explanations and examples to help you understand these points.

Overall, we hope that this book will help you develop a strong foundation in ICT and explore its exciting world.

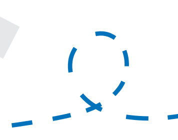
We hope that you find this book informative, engaging, and enjoyable to read.

Author,
Eng. Osama Youssef



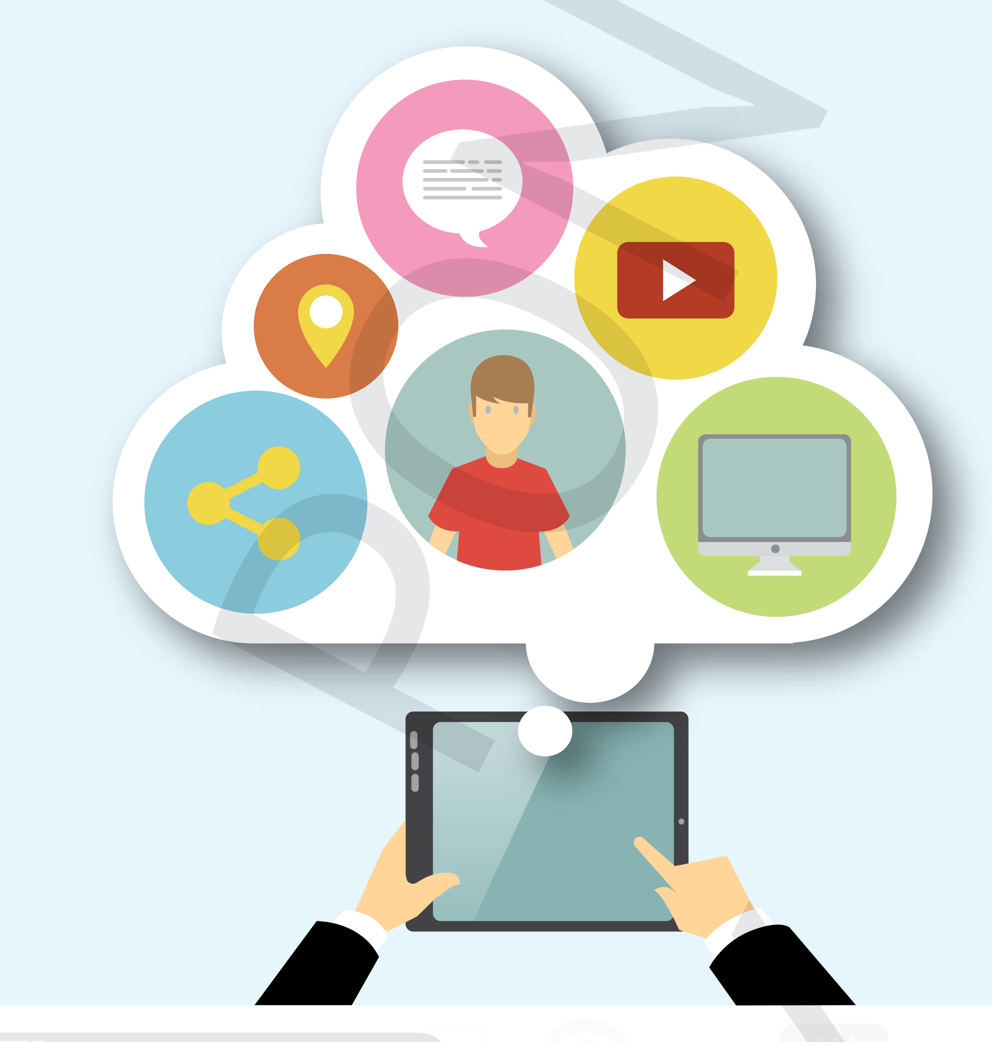


Contents



Theme 1

Role of ICT in Our Life



Theme Lessons:





In this theme, you will learn about the mechanisms to deal with ICT (Information and Communication Technology) in order to cope with the latest technological developments.

This includes identifying the operating systems for devices, such as mobile devices and PCs.

You will also create the concept and plan a website that promotes a cutting-edge assistive technology product.



Lesson 1 Explorer in Action

Mr. Kartik Sawhney



- Mr. Kartik Sawhney is a National Geographic Explorer and a computer expert.
- He uses technology to empower people of determination.
- He earned his Bachelor's and Master's degrees in Computer Science at Stanford University, California, in the USA.
- His studies focused on:
  1. Artificial intelligence (AI).
  2. Human-computer interaction.

• السيِّد كارتيك ساوهني هو مستكشف نشط في ناشونال جيوجرافيك، وهو خبير بالكمبيوتر.
• يَستخدم ساوهني التكنولوجيا لتمكين الأشخاص من ذوي الهمم.
• حصل على شهادتَي البكالوريوس والماجستير في علوم الكمبيوتر من جامعة ستانفورد بكاليفورنيا في الولايات المتحدة الأمريكية.
• وقد ركَّزت دراسته على الذكاء الاصطناعي والتفاعل بين الإنسان وأجهزة الكمبيوتر.

- Mr. Sawhney creates applications that provide access to visual content for the blind and visually impaired.
- His app converts graphs into audio frequencies, allowing the listener to hear the difference in information in the graph.
- He has worked on projects with over 20 universities and corporations and has impacted over 12,000 people of determination worldwide.
- For his outstanding work, he has received national and international awards, including:
  1. The Queen's Young Leaders Award
  2. The UN Young Leader's Award

• يبتكر السيِّد ساوهني تطبيقات تسمح للأشخاص المكفوفين وضعاف البصر بالوصول إلى المحتوى المرئي.
• يقوم تطبيقه بتحويل الرسوم البيانية إلى تردُّدات صوتية؛ مما يسمح للمستمع أن يسمع الاختلاف في المعلومات بالرسم البياني.
• وقد عمِل على مشاريع مع أكثر من ٢٠ جامعة ومؤسَّسة، وأثَّر على أكثر من ١٢٠٠٠ شخص من ذوي الهمم حول العالم.
• ونتيجة لعمله المتميِّز، حاز على جوائز محلية وعالمية، ومنها: جائزة الملكة للقادة الشباب، وجائزة الأمم المتحدة للقادة الشباب.



How does Mr. Sawhney help people of determination?



» There are over one billion people of determination worldwide. To help them, Mr. Sawhney co-founded istemai.com.

» I-Stem (istemai.com): It's a platform that provides software that changes digital texts into a format that can be easily used by the blind and visually impaired.

1. A person who can't read a text might upload that text to the I-Stem website.
2. The software converts the file into a Word document.
3. A few minutes later, the person receives the converted document and listens to the text using a screen reader, which automatically reads the text aloud.



- يوجد أكثر من مليار شخص من ذوي الهمم حول العالم. ولكي يساعدهم شارك ساوهني في تأسيس I-Stem (استماعي).
- I-Stem: هي منصَّة تُقدِّم برنامجًا يُغيِّر النصوص الرقمية إلى صيغة يمكن استخدامها من قِبَلِ المكفوفين وضعاف البصر بسهولة.

1. يمكن للشخص الذي لا يستطيع قراءة النص أن يُحمِّل ذلك النص إلى موقع I-Stem.
2. يُحوِّل البرنامج الملف إلى مستند ببرنامج Word.
3. بعد دقائق قليلة، يتلقّى الشخص المستند المحوَّل ويستمع إلى النصّ باستخدام قارئ الشاشة الذي يقرأ النصّ بصوت عالٍ بصورة تلقائية.

Other benefits of I-Stem for people of determination:

» The I-Stem platform (istemai.com) also includes mentorship and employment opportunities for people of determination.

» This is achieved by working closely with governments, technical universities, and corporations.

» The platform is supported by UNICEF, Microsoft, and the National Geographic Society, among other partner organizations. This makes it easier for people of determination to access the services and venues of the organizations.

- تتضمَّن منصَّة I-Stem أيضًا فُرَصًا للإرشاد والتوظيف للأشخاص من ذوي الهمم.
- ويتحقَّق ذلك من خلال العمل عن كَثَب مع الحكومات والجامعات التكنولوجية والمؤسَّسات.
- المنصة مدعومة من اليونيسيف، ومايكروسوفت، ومجتمع ناشونال جيوجرافيك، بالإضافة إلى المنظَّمات الشريكة الأخرى، وهذا يُسهِّل على ذوي الهمم الوصول إلى خدمات وأماكن المنظمات.







Volunteer mentors can help people of determination with:

يوجد مدربون متطوعون يمكنهم مساعدة ذوي الهمم في الآتي:

1 **Resume writing**



كتابة السيرة الذاتية

2 **Job interviews preparation**





التحضير لمقابلات العمل

3 **Career-related questions**



الأسئلة المُتعلِّقة بالعمل

» Job seekers can upload their resume to the partnering company's site and the Human Resources (HR) department will review the resumes for consideration.

• يمكن للباحثين عن العمل أن يُحمِّلوا سيرتهم الذاتية إلى المواقع الإلكترونية الخاصة بالشركات الشريكة، وسيقوم قسم الموارد البشرية بفحصها.

Egypt's Efforts for People of Determination

» Egypt supports people of determination in many settings.

1. To assist the visually impaired, the Taha Hussein Library in the New Bibliotheca Alexandrina has scanners with special software that converts printed text into audio.
2. Scholarships and special opportunities are offered to gifted individuals, such as "The Miracle Child" Rania Saleh, who is a talented computer programmer with Down Syndrome.
3. In 2022, Egypt launched several initiatives to empower over 20 million Egyptians who are people of determination.

» These initiatives guide organizations to integrate employees of determination in the workforce and create job opportunities.

» In addition, the Ministry of Manpower is developing programs that educate and train people of determination for the job market.

Finally, efforts by Mr. Sawhney and the Egyptian State make rights and services truly inclusive.

- تدعم مصر الأشخاص من ذوي الهمم في العديد من الأماكن:

1. مِن أجل مساعدة ضعاف البصر، تحتوي مكتبة طه حسين في مكتبة الإسكندرية على ماسحات ضوئية تتضمَّن برامج خاصة تُحوِّل النص إلى صوت.
2. تُقدِّم المنح والفرص المميزة للأفراد الموهوبين، مثل «الطفلة المعجزة» رانيا صالح، وهي مبرمجة كمبيوتر ماهرة مصابة بمتلازمة داون.
3. في سنة ٢٠٢٢، أطلقت مصر عدَّة مبادرات لتمكين أكثر من ٢٠ مليون مصري من ذوي الهمم.

- تُرشد تلك المبادرات المنظَّمات لدمج الموظفين من ذوي الهمم بالقوى العاملة وإنشاء فرص عمل لهم.
- إضافة إلى ذلك، تُطوِّر وزارة القوى العاملة برامج لتعليم الأشخاص من ذوي الهمم وتدريبهم لسوق العمل.
- تسمح جهود السيِّد ساوهني والدولة المصرية للحقوق والخدمات بأن تصبح شاملة حقًّا.

Explanatory Information

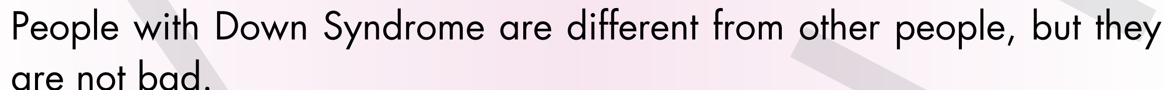
معلومات توضيحية إضافية خارج الكتاب المدرسي



Down Syndrome is a genetic disorder that some people are born with.

It means they have an extra chromosome in their body, which can make them look and learn a little differently.

People with Down Syndrome might need more time to learn things like talking, walking, and reading.



People with Down Syndrome are different from other people, but they are not bad.

They are just as special and valuable as anyone else.



There are several ways to create a website using:

1 Platforms

- It gives a few choices on the layout, color, and content.

Example: WordPress

- توفر بعض الخيارات بشأن التخطيط واللون والمحتوى.

2 Coding Languages

- It is used by expert programmers like Mr. Kartik Sawhney.
- It makes a website look a specific way and do exactly what you want.

- يتم استخدامه من قِبَل المبرمجين الخبراء مثل السيد ساوهني.
- يجعل موقع الويب يبدو بطريقة معينة ويفعل ما تريده بالضبط.

» HTML is a programming language that allows web developers to arrange the various parts of their website using less codes.



• لغة HTML هي لغة برمجة تسمح لمطوِّري الويب بتنظيم الأجزاء المتعدِّدة من موقعهم الإلكتروني باستخدام أكواد برمجية أقل.

Advantages of Learning HTML

1. It is relatively easy to learn and runs on all browsers.
2. It is best used for static web pages, which do not need to be updated frequently.

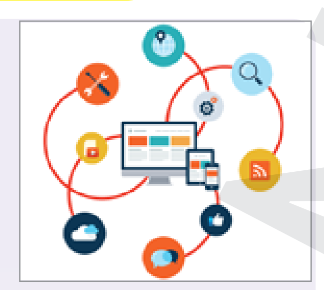
   For example, people who want to write about the history of a place and show photos of it can use static web pages.

• مزايا تعلُّم HTML:

1. من السهل نسبيًّا تعلمها وتعمل على جميع المتصفحات.
2. من الأفضل استخدامها لصفحات الويب الثابتة، والتي لا تحتاج إلى التحديث بشكل متكرر.

على سبيل المثال، يمكن للأشخاص الذين يرغبون بالكتابة عن تاريخ مكان ما وإرفاق صور له بأن يستخدموا صفحات الويب الثابتة.

Dynamic Web Design Languages



1. Websites that show results according to each user's history and interests need their web pages to change all the time.
2. These websites use dynamic web design languages, such as JavaScript, PHP, or Python.
3. Dynamic coding languages let websites track a customer's orders and favorite products or update search results in a browser.
4. Kartik Sawhney programs in Python, but he has also programmed in C# and C++.

• لغات تصميم الويب الديناميكية:

1. تحتاج مواقع الويب التي تعرض النتائج وفقًا لتاريخ كل مستخدم واهتماماته إلى تغيير صفحات الويب الخاصة بها طوال الوقت.
2. تَستخدم مواقع الويب هذه لغات تصميم الويب الديناميكية، مثل: JavaScript أو PHP أو Python.
3. تسمح لغات البرمجة الديناميكية لمواقع الويب بتتبُّع طلبات العملاء والمنتجات المفضلة أو تحديث نتائج البحث في المتصفح.
4. كارتيك ساوهني يبرمج بلغة Python، لكنه أيضًا برمج بلغة C # و C ++.

Exercises on Lesson 1

1 Choose the correct answer:

1. Mr. Kartik Sawhney is ....
   a. a National Geographic Explorer b. a computer expert
   c. both of them
2. Mr. Sawhney co-founded the .... platform to help people of determination.
   a. I-access b. I-Stem c. I-determination
3. Kartik Sawhney programs in ....; he has also programmed in C# and C++.
   a. HTML b. Python c. Java
4. Mr. Kartik Sawhney uses technology to empower ....
   a. people of determination b. computer engineers c. students
5. Kartik Sawhney studied .... in his Bachelor's and Master's degrees.
   a. Computer Hardware b. Computer Science c. Science
6. .... is a website that helps blind and visually impaired people read digital texts.
   a. The EKB b. Google c. Istemai.com
7. "The Miracle Child," Rania Saleh, is a talented .... with Down Syndrome.
   a. doctor b. explorer c. programmer
8. .... is a markup language that is used to create websites.
   a. HTML b. C++ c. Swift
9. Mr. Kartik Sawhney holds a Master's degree in Computer Science from .... University.
   a. Cairo b. Stanford c. Chicago
10. I-Stem platform is supported by ....
    a. National Geographic b. Microsoft c. both of them

11 HTML is used to create .... web pages.
a. static
b. dynamic
c. both of the previous

12 Kartik Sawhney's studies focused on ....
a. human-computer interaction
b. artificial intelligence
c. both of them

13 The .... platform includes mentorship and employment opportunities for people of determination.
a. EKB
b. I-Stem
c. Facebook

14 You can create a website using ....
a. programming languages
b. platforms
c. both of them

15 If you can't read a text, the first step to use the I-Stem platform is to ....
a. upload the text
b. convert the text to audio
c. ask for help

16 Mr. Sawhney's app converts graphs into .... frequencies to allow the listener to hear the difference in information in the graph.
a. audio
b. video
c. text

17 .... is relatively easy to learn and runs on all browsers.
a. C++
b. PHP
c. HTML

18 The Ministry of Manpower is developing programs that .... people of determination for the job market.
a. educate and train
b. entertain
c. cure

19 The I-Stem platform includes .... opportunities for people of determination.
a. mentorship and employment
b. marriage
c. travel

20 .... is/are example(s) of dynamic web design languages.
a. JavaScript
b. PHP
c. Both a and b

21 When a person uploads a text to the Istemai website, the software converts the file into a/an .... document.
a. Word b. PDF c. Excel

22 What awards has Mr. Sawhney received for his outstanding work?
a. Nobel Prize b. Queen's Young Leaders Award
c. Grammy Awards

23 Mr. Sawhney develops applications to help .... people access visual content.
a. blind & visually impaired b. physically disabled c. deaf

24 The I-Stem platform includes volunteer .... that help people of determination write professional resumes.
a. teachers b. mentors c. scientists

25 Taha Hussein Library in the New Bibliotheca Alexandrina has scanners with special software to convert printed text into ....
a. digital text b. audio c. video

26 .... is used for static web pages, which do not need to be updated frequently.
a. JavaScript b. PHP c. HTML

27 When blind and visually impaired people upload a text to the I-Stem platform, they can listen to the text using ....
a. braille terminal b. screen readers
c. screen magnification software

28 .... programing language(s) allow(s) websites to track a customer's orders and favorite products or update the search results in a browser.
a. Static b. Dynamic c. Both a and b

29 People of determination upload their resumes on the .... website to be checked for employment.
a. partnering company's b. I-Stem c. HR

30 Taha Hussein Library in the New Bibliotheca Alexandrina has .... with special software to convert printed text into audio.
a. printers b. scanners c. speakers

2 Put (✓) or (✗):

1. Kartik Sawhney is a computer expert. ( )
2. Kartik Sawhney programs in HTML. ( )
3. Mr. Sawhney develops apps to help people of determination. ( )
4. Kartik Sawhney is a National Geographic Explorer. ( )
5. There is one way to create websites using coding languages. ( )
6. Kartik Sawhney earned his Master's degree from Harvard University. ( )
7. Taha Hussein Library has printers that convert printed text into audio. ( )
8. Mr. Sawhney develops an app to convert graphs into audio frequencies. ( )
9. Kartik Sawhney studies Computer Science and focuses on artificial intelligence. ( )
10. "The Miracle Child" Rania Saleh is a programmer with Down Syndrome. ( )
11. HTML is difficult to learn as a programming language. ( )
12. The I-Stem platform includes employment opportunities for people of determination. ( )
13. Programmers, such as Mr. Sawhney, use platforms to create websites. ( )
14. HTML is a programming language used to create websites using less codes. ( )
15. Dynamic web design languages include JavaScript, PHP and Python. ( )
16. HTML is used for dynamic web pages. ( )
17. Kartik Sawhney has received national and international awards for his great work. ( )
18. Mr. Sawhney co-founded the I-Stem platform to help people of determination worldwide. ( )
19. There are several platforms that help in creating websites. ( )
20. Egypt launched several initiatives to empower people of determination and create job opportunities for them. ( )

Theme 1

21 Kartik Sawhney is a computer expert who uses technology to teach Computer Science. (   )

22 HTML doesn't run on all browsers. (   )

23 Egypt offers scholarships and special opportunities to talented people. (   )

24 Mr. Sawhney develops apps to help blind and visually impaired people. (   )

25 Istemai.com is a website that helps blind and visually impaired people read texts. (   )

26 The I-Stem platform works with governments and technical universities to support people of determination. (   )

27 The Ministry of Manpower is developing programs that prepare people of determination for the job market. (   )

3 Complete the following sentences using the words between the brackets:

(Screen readers – I-Stem – static – dynamic – artificial intelligence)

1 Mr. Kartik Sawhney's studies focused on .... and human-computer interaction.

2 HTML is used for creating .... web pages.

3 .... convert digital texts to audio.

4 Mr. Sawhney co-founded the .... platform.

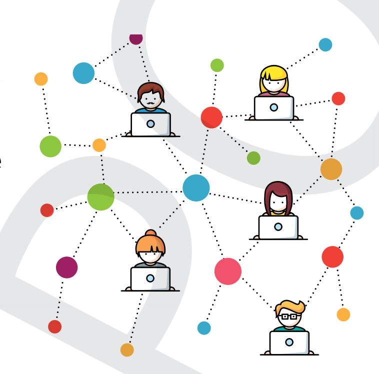
5 Python is a programming language used to create .... web pages.



Lesson 2

Computer Network Devices

Networks



- They are groups of people, or things that are connected to each other for a common purpose.

• تُمثِّل مجموعة من الأشخاص أو الأشياء المرتبطة بعضها ببعض لهدف مشترك.

Computers



- They are electronic devices that create, process, and store information.

• أجهزة الكمبيوتر أجهزة إلكترونية تُنشئ المعلومات وتُعالجها وتُخزِّنها.

Different Types of Computers

Personal Computers (PCs)

Desktop computers



Laptops

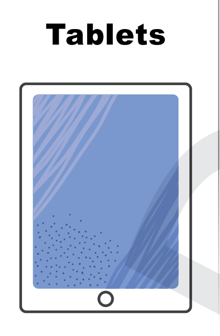


Mobile Devices

Smartphones



Tablets



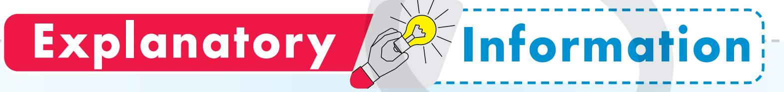
E-readers



Theme 1

- Computer networks connect computers with each other to share important information and data.

• تربط شبكة الكمبيوتر أجهزة الكمبيوتر ببعضها البعض لمشاركة المعلومات والبيانات المهمَّة.



معلومات توضيحية إضافية خارج الكتاب المدرسي

Smartphones, tablets, and e-readers are all types of computers. They all have the same basic components as a desktop or laptop computer, such as a central processing unit (CPU), memory, and storage. They also run software programs, just like traditional computers.

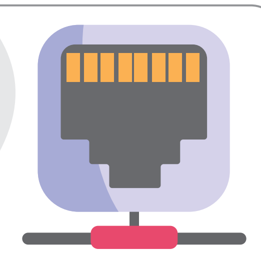
Making Connections

- There are two main ways to connect computers to a network: Wired and Wireless.

Wired Networks	Wireless Networks
• They use physical wirings and cables, which are plugged into holes on devices, called ports. • تستخدم الأسلاك والكابلات التي يتم توصيلها بفتحات في الأجهزة تُسمى المنافذ.	• They connect devices without wirings by using radio waves (wireless or Wi-Fi). • تقوم بتوصيل الأجهزة بدون أسلاك باستخدام موجات الراديو (لاسلكية أو Wi-Fi).

Ports

- They are holes (physical connectors) on devices where physical wirings and cables are plugged in.
- They are parts of a computing device available for connection with input and output devices.



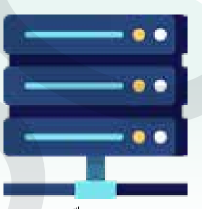
• هي فتحات في الأجهزة حيث يتم توصيل الأسلاك والكابلات.

• هي أجزاء من جهاز كمبيوتر متاحة للاتصال بوحدات الإدخال والإخراج.

Network Devices

» Computers need different network connection devices to transfer data.

1 Server



» It's a computer which provides services to other computers.

» It has large amounts of data storage that exist either as hardware or on the Internet.

• كمبيوتر يُوفِّر خدمات لأجهزة كمبيوتر أخرى، وتحوي كميات كبيرة من البيانات المخزَّنة، إمَّا على أجهزة أو على الإنترنت.

2 Modem

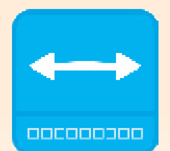
» It's a device that connects a local area network (LAN) to the Internet.

» It converts the signal from the Internet service provider (ISP) and transforms the signal into a digital signal that can be read by devices.

• هو جهاز يصل شبكة محلية (LAN) بالإنترنت.

• يُحوِّل الإشارة من مزوِّد خدمة الإنترنت (ISP) إلى إشارة رقمية يمكن للأجهزة التعرُّف عليها.

3 Hub



» It allows wired devices to connect to a network and pass information to all the devices on that network.

» This can make it very slow, as there is a lot of information moving around.

• تتيح للأجهزة السلكية الاتصال بشبكة ما ونقل المعلومات إلى جميع الأجهزة الموجودة على تلك الشبكة، وهذا يجعلها بطيئة جدًّا؛ نظرًا لوجود الكثير من المعلومات المتبادلة.

4 Switches

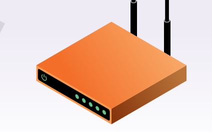


» They work in a similar way to a hub, but they can send data to a specific device over a network, which helps make connections easier and faster.

• تعمل بطريقة مشابهة لـ Hub، لكن يمكنها إرسال بيانات إلى جهاز معيَّن عبر شبكة؛ وذلك يساعد في تيسير التواصل وإسراعه.

Theme 1

5 Router



- It functions as a gateway.
- It connects a modem to different networks.

• يعمل الراوتر بمثابة بوابة (Gateway)، فهو يربط بين المودم ومختلف الشبكات.



NOTES:

- Hubs and switches are both network devices that connect multiple devices together.
- Switches are intelligent, but hubs are unintelligent.

Exercises Info

Switches are intelligent because...	Hubs are unintelligent because...
1 They send data to only the intended (specific) device.	1 They send data to all connected devices, whether the device needs the data or not.
2 They can perform other tasks, such as Quality of Service (QoS), and security features to improve network performance.	2 They don't perform any additional tasks to improve network performance.
1 يرسلون البيانات إلى الجهاز المقصود (المحدد) فقط.	1 يرسلون البيانات إلى جميع الأجهزة المتصلة، سواء كان الجهاز بحاجة إلى البيانات أم لا.
2 يمكنهم أداء مهام أخرى مثل: جودة الخدمة (QoS)، وميزات الأمان لتحسين أداء الشبكة.	2 لا يؤدون أي مهام إضافية لتحسين أداء الشبكة.

Test Yourself

Complete the following:

1. A .... connects your device to the Internet via a cable or Wi-Fi.
2. .... send data to all the devices on that network.
3. .... pass data to a specific device over a network.
4. .... are intelligent, but .... are unintelligent devices.

Artificial Intelligence (AI)

- It is a machine's intelligence that can be used to solve problems.

• الذكاء الاصطناعي (AI): هو ذكاء آلة يمكن استخدامه لحلِّ المشكلات.

Examples of AI on your devices :

Navigation	Voice recognition	Virtual assistants	Holograms

• من أمثلة الذكاء الاصطناعي (AI) على أجهزتك: الملاحة، والتعرُّف على الصوت، والمساعد الافتراضي، والهولوغرامات.

- AI makes it possible for your phone or laptop to create holograms.

• الذكاء الاصطناعي يسمح لهاتفك أو جهاز الكمبيوتر الخاص بك بإنشاء الهولوغرامات.

Hologram: It is a 3-dimensional (3D) image that you can see without the use of special glasses or equipment.

هي صورة ثلاثيَّة الأبعاد يمكنك رؤيتها من دون نظارات مميزة أو معدات.

- If you look at a regular 3D image without special 3D glasses, it will appear as a 2D image without any depth.
- Holographic images are becoming increasingly popular, used by educators teaching virtually and in advanced gaming systems.

• إذا نظرت إلى صورة عادية ثلاثية الأبعاد بدون نظارات ثلاثية الأبعاد، فستظهر كصورة ثنائية الأبعاد بدون أي عمق.
• تزداد الصور الهولوغرافية شهرة؛ إذ يستخدمها المدرِّسون الذين يعطون دروسًا افتراضية، وهي شائعة الاستخدام في أنظمة الألعاب المتقدمة.

Explanatory Information

معلومات توضيحية إضافية خارج الكتاب المدرسي

- Navigation: AI is used in navigation apps to help you find your way around and suggest alternative routes, as in Google Maps.
- Voice recognition: AI is used in voice recognition software to understand what you are saying, recognize your voice, and respond to your commands as in Alexa.
- Virtual assistants: Virtual assistants, such as chatbots, use AI to provide personalized assistance and support to users. They can answer questions, provide recommendations, and perform tasks based on the user requests.

Exercises on Lesson 2

1 Choose the correct answer:

1. .... are a group of people or things that are connected to each other.
   a. Servers b. Networks c. Hubs
2. .... are electronic devices that create, process, and store information.
   a. Computers b. Routers c. Switches
3. .... is/are a machine's intelligence that can be used to solve problems.
   a. Artificial intelligence b. Holograms c. Switches
4. Hubs and .... are both network devices that connect multiple devices together.
   a. servers b. switches c. Wi-Fi
5. .... are computers that have large amounts of data storage.
   a. Switches b. Servers c. Hubs
6. The data storage for a server can exist on ....
   a. a physical hardware b. the Internet c. both of them
7. A 3D image that you can see without the use of special glasses is called ....
   a. artificial intelligence b. hologram c. navigation
8. Computer networks are used to .... information and data.
   a. create b. delete c. share
9. A computer which provides services to other computers is called a ....
   a. server b. network c. cloud
10. .... networks connect devices using radio waves.
    a. Wired b. Wireless c. Both a and b

11 Wired networks connect devices using ....

a. Wi-Fi b. radio waves c. cables

12 .... makes it possible for your phone or laptop to create holograms.

a. Artificial intelligence b. Wi-Fi c. Bluetooth

13 .... are intelligent devices that pass information to a specific device over a network.

a. Switches b. Hubs c. Modems

14 .... are holes on devices where physical cables are plugged in.

a. Ports b. Modems c. Switches

15 .... is a device that connects a local area network (LAN) to the Internet.

a. Artificial intelligence b. A modem c. A server

16 A .... works as a gateway and connects a modem to different networks.

a. switch b. hub c. router

17 .... are parts of a computing device available for connections with input and output devices.

a. Cables b. Modems c. Ports

18 .... is/are used by online educators and are also commonly used in advanced gaming systems.

a. Zoom b. WhatsApp c. Holograms

19 A .... converts the signal from the Internet service provider (ISP) into a digital signal.

a. modem b. router c. switch

20 .... connect devices to a network and send data to all the devices on that network.

a. Switches b. Hubs c. Modems

21 Navigation, voice recognition, and virtual assistants are examples of .... on your phone.

a. artificial intelligence b. holograms c. switches

2 Put (✓) or (✗):

1. Computers come in a variety of forms, including smartphones and tablets. ( )
2. Networks are groups of people or things that are connected to each other. ( )
3. A wireless network connects devices with physical wiring and cables. ( )
4. There is only one way to connect computers to a network: using cables. ( )
5. Computers don't need network connection devices to transfer data. ( )
6. Artificial intelligence allows your device to create holograms. ( )
7. Hubs are intelligent devices, but switches are unintelligent. ( )
8. Hubs allow wireless devices to connect to a network. ( )
9. A modem is a device that converts the signal from an ISP into a digital signal. ( )
10. Routers are electronic devices that create, process, and store information. ( )
11. Hubs can cause slow connections because they send data to all devices on the network. ( )
12. A regular 3D image will appear as a 2D image without 3D glasses. ( )
13. Ports are holes on devices where physical wirings are plugged in. ( )
14. Hubs send data to a specific device on the network. ( )
15. Wired networks use physical cables, which are plugged into holes on the devices called ports. ( )
16. Switches direct data to specific devices, making connections easier and faster. ( )
17. Holograms are 2D images that you can see without the use of special equipment. ( )
18. Artificial intelligence (AI) is a machine's intelligence that can be used to solve problems. ( )

19 Servers are computers which provide services to other computers. ( )

20 Servers have limited amounts of data storage. ( )

21 Voice recognition, and virtual assistants are examples of AI on your device. ( )

22 Holographic images are used by online educators and are popularly used in advanced gaming systems. ( )

3 Complete the following sentences using the words between the brackets:

(unintelligent – router – specific – Holograms – AI)

1 Holograms can be created using ....

2 Switches send data to a .... device on the network.

3 A .... works as a gateway to connect devices to the Internet.

4 Hubs are .... devices.

5 .... are 3D images that can be seen without the use of special glasses.

4 Choose from column (A) what suits it in column (B):

Column (A)	Column (B)
1 A router	a. is a computer which stores large amounts of data.
2 A server	b. passes information to all the devices on the network.
3 A switch	c. are holes on devices where cables are plugged in.
4 A hub	d. is a gateway that connects a modem to different networks.
5 Ports	e. is an intelligent device that sends data to a specific device on the network.

1 .... 2 .... 3 .... 4 .... 5 ....

Theme 1

5 Read the sentences and name the device:

This item...	What am I?
1 ... connects a network to another network. You need it to connect any device to the Internet.	....
2 ... sends data to a specific device over a notwork.	....
3 ... sends data to all wired devices connected to it.	....
4 ... is the part of a computing device available for connection with input (e.g., a keyboard, or a mouse) and output devices (e.g., speakers, a printer).	....
5 ... is a computer which provides services to other computers. There are many different types, but a common function is to store audio files, video files, documents, and many other file types.	....
6 ... allow wired devices to connect to a network and pass information to all the devices on that network.	....

6 Think about the network equipment you will need for the following scenarios and create a computer network for each one. Draw and label the networks.

Hub   Modem   Network cable   Router   Server   Switch

1 Fares wants to connect his laptop to his parent's desktop computer.
2 Mrs. Gamal's ICT classroom has ten PCs and wants everyone to be able to access all files, even when one computer is turned off.
3 Everyone in Mostafa's football team needs to access the Internet to play online multi-player football games.